

Amendments to the Specification:

Please amend paragraph 1 on page 1 of the specification as follows:

The present invention relates to polymer mixtures containing a first long-chain polymer and a second short-chain polymer wherein the structural parameters of the two polymers are coordinated in such a way that a polymeric material is obtained which is easier to process while being provided with improved mechanical properties and in part also improved thermal properties compared with the first polymer under suitable conditions for producing the polymer mixture as a result of networks being formed and by heterocrystallisation taking place.

Please amend paragraph 4 (the last paragraph) at page 3 of the specification (i.e., paragraph [0017] of US 2006/0148960) as follows:

With regard to PE, basically all types satisfying the above conditions can be used, i.e. VLDPE, LLDPE, LDPE, HDPE, HMWPE and UHMWPE as well as copolymers such as, for example, EVA or terpolymers and higher polymers. In the case of VLDPE DPs lies in the range of 7-25 so that only VLDPE with DPs >20 can appropriately be used. In the case of LLDPE, DPs lies in the range of 25-100 so that the entire spectrum can be used here. This is also the case with LDPE and HDPE. However, typical HDPE crystallises very well because of the very small fraction of side chains (only around 2 per 1000 C atoms in the chain) so that the positive effects relating to the mechanical properties which occur with the other PE are less applicable to HDPE. However, the technology can also be suitable for HDPE in order to increase its MFI and therefore the processability, or for special applications where the fraction of P(j) is very high, for example, 50% so that the melt of the mixture has a very low viscosity and is freely pourable and this mixture can be used as casting resin which hardens on cooling without any chemical cross-linking needing to take place, as is the case with the usual casting resins (e.g. polyester resins, epoxide resins).

Please add the following new paragraph after paragraph 2 and before paragraph 3 at page 5 of the specification (i.e., immediately after paragraph [0021] of US 2006/0148960) as follows:

In an embodiment of the polymer mixture, under comparable processing conditions of P(i) and of P(i)+P(j), a) the quotient of the modulus of elasticity $E(i, j)$ of P(i) +P(j) and the modulus of elasticity $E(i)$ of P(i), $E(i, j)/E(i)$ is >1.1 and <4 ; and/or b) the quotient of the yield stress $sy(i, j)$ of P(i)+P(j) and the yield stress $sy(i)$ of P(i), $sy(i, j)/sy(i)$ is >1.1 and <3.0 ; and optionally; c) if there is a fraction $A(j)$ of P(j) relative to P(i)+P(j) in wt. % within the range $1 < A(j) < 15$, the quotient of the breaking elongation $eb(i, j)$ of P(i)+P(j) and the breaking elongation $eb(i)$ of P(i), $eb(i, j)/eb(i)$ is >1.01 and <1.5 .